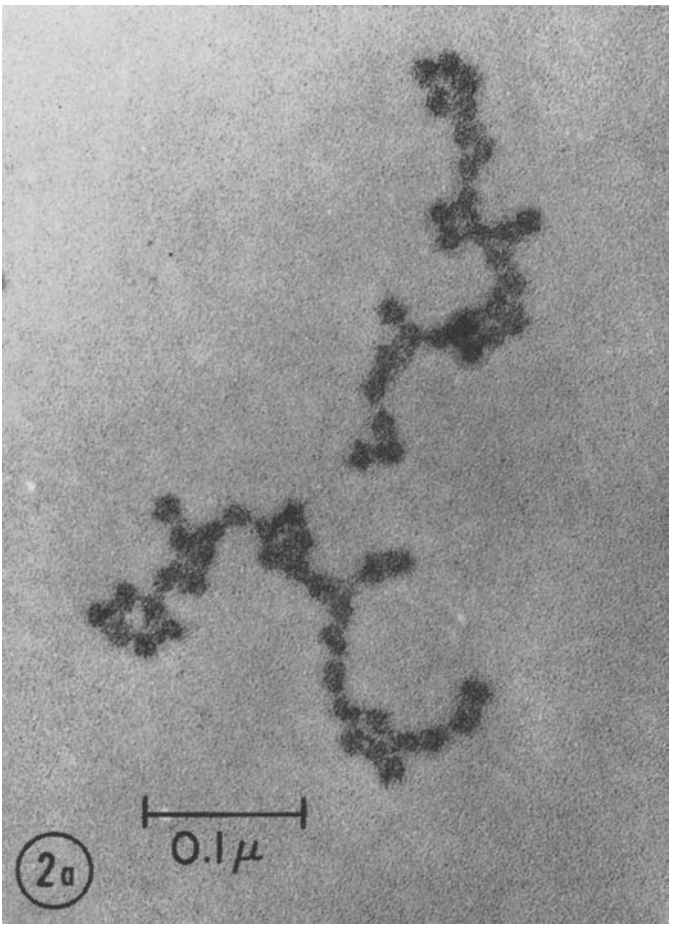

Figure 6.12. Electron micrograph of large polyribosomes from *E. coli* synthesizing β-galactosidase. Reproduced from H. Slayter et al. (1968), An electron microscopic study of large bacterial polyribosomes, *Journal of Cell Biology, 37*, 583–90, Figure 2a, p. 586, by copyright permission of the Rockefeller University Press.

of a strand of messenger RNA. Figure 6.12 shows a longer polysome from *E. coli* engaged in the synthesis of β-galactosidase (Slayter et al., 1968).

Rich proposed that the ribosomes moved along the messenger RNA, adding the appropriate amino acid to the polypeptide chain it was constructing according to the instruction at that locus on the chain. He hypothesized that a "ratchet-like mechanism" (1963, p. 49) would move the ribosomes along the chain. Thus, each ribosome attached to the messenger RNA made a copy of the